keeping CURRENT

The Value of the Columbia River

April 1998

Water is the crucial resource in the American West. Throughout much of the western states, as far east as Kansas, average precipitation is less that 20 inches a year. Pumping groundwater is depleting aquifers; the water table has fallen more than 100 feet in part of the High Plains.

The Pacific Northwest is an exception. Its western valleys are wet, and the region as a whole is blessed with one of the world's most powerful river systems, the Columbia River.

Living so close to it, we in the Northwest tend to forget just how valuable a resource the Columbia is. The river is the engine of the region's economy and the heart of its identity.

To Rival the Pyramids

Smithsonian Magazine has compared the capstone of the Columbia River system, Grand Coulee Dam, to the pyramids of Egypt. Like the ancient Egyptians, whose civilization depended on the nourishing waters of the Nile, the Northwest of today has been built upon the river's resources.

Today, the publicly owned Columbia River system provides:

- Public Safety
- Fish and wildlife protection
- Power production
- Irrigation
- Navigation

The river system supports public values that are important to the people of the Northwest: a clean, healthy environment and economic health.

- Recreation

The Bonneville Power Administration, U.S. Army Corps of Engineers and Bureau of Reclamation -- all federal agencies -- work together with state agencies and electric utilities to bring these public benefits to the people of the Pacific Northwest.

Environmental Benefits

The nation's cleanest air

The Northwest's hydro system helps preserve our clean air. Other parts of the U.S. and much of the world rely on coal, oil and natural gas for electricity. These power plants are primary sources of acid rain and greenhouse gasses.

In terms of greenhouse gasses, the Columbia River system is not just good, it's perfect. BPA's hydro system does not contribute to air pollution at all. It emits absolutely no greenhouse gasses. This is an immense environmental benefit of hydropower.

Unlike the Adirondack Mountains back east, Northwest coniferous forests do not suffer from acid rain. A 1990 study identified Lake Natasha near Crater Lake, Ore., as having the purest water in the world.

If the region had to replace its hydropower, the likely substitute would be gas-fired combustion turbines or coal-fired plants, which produce air pollutants. Replacing BPA's 8,550 megawatts of firm power with electricity from the cleanest fossil-fuel source, modern combustion turbines, would add over 28.3 million metric tons of carbon dioxide to Northwest air each year, the equivalent of putting 5.7 million more cars on the road.

Fish and wildlife need

Hydropower had damaged the river's fish and wildlife, but users of hydropower are taking aggressive steps to mitigate the damage.

Today, fish and wildlife takes priority over all other river uses except public safety. Power protection is distinctly third.

River system operators follow the National Marine Fisheries Service 1995 Biological Opinion for endangered salmon, which identifies target streamflows in spring and summer to help young fish migrate downstream, and requires year-round reservoir operation to meet those flow targets.

The federal Columbia River system is paying for its environmental costs. It's an immense program Northwest ratepayers fund, so that the burden is not put on taxpayers.

When BPA and other agencies testified before Congress on their fish and wildlife programs in 1996, a

Representative asked each witness: What is your agency paying for endangered species protection this year? BPA's costs exceeded those of the Departments of Defense, Agriculture, Commerce and Interior put together. Specific measures and projects to help fish and wildlife cost an average $252 million a year. BPA now funds about 300 fish and wildlife projects chosen by the Northwest Power Planning Council after independent scientific review. Fish agencies and Northwest tribes prioritize the projects.

There are also other operational costs associated with giving fish the priority in managing the river. These costs fluctuate from about $90 million to $180 million a year, depending on whether it is a wet or dry year. They include such things as lost power revenue when water is diverted from generators to help fish, and additional power purchases when hydro is unavailable due to fish needs.

Over the years, BPA has spent nearly $3 billion on fish and wildlife.

Public Safety Benefits

Public safety is the first priority of Columbia River system operations.

Flooding has been a perennial problem on the Columbia. The infamous 1948 Vanport Flood washed away what was then the second-largest city in Oregon. It led to flood control projects upstream, including three storage dams on the Canadian reaches of the river built under the 1961 Columbia River Treaty with Canada.

In February 1996, a major flood on the Columbia and Willamette rivers threatened downtown Portland. The Corps of Engineers, which controls all U.S. dams for flood control, turned off the taps. British Columbia Hydro and Power Authority stored water at the Canadian dams. The Bureau of Reclamation practically shut down Grand Coulee Dam.

With the dams all but shut off to control flood waters, within six hours, BPA imported enough energy to keep the lights on. It cost BPA $5 million, but the united federal agency action averted $3.2 billion in flood damage. The river crested 3 inches from the top of downtown Portland's seawall.

The large hydro generators at Columbia River dams can be started and or stopped in seconds. Coal or natural gas systems take hours or even days to fire up and bring on line. When a quick response is needed in an emergency, hydropower proves its value over and over again.

A February 1989 cold front demonstrated another public safety aspect of the Columbia River system. Extreme cold blasted the Northwest and settled in for a long stay. People cranked up their thermostats. Northwest utilities ran short of power; they asked for help and needed it fast. The Bureau of Reclamation agreed to draw Grand Coulee down 2 feet a day for three days, far beyond its normal operating limits, so BPA could ship extra electricity to cities in danger of blackouts. The lights stayed

on. And homes stayed warm.

Economic Benefits

The Columbia River system is a tremendous regional advantage in global economic competition. The Columbia/Snake waterway gives the inland Northwest access to Far East markets for products ranging from paper to what. It supports a recreation industry from houseboating on Lake Roosevelt to windsurfing in Hood River. The river and its tributaries irrigate Idaho potatoes, Yakima apples and Walla Walla sweet onions.

Thanks to this great river system, Northwest power rates are the lowest in the United States. BPA power at cost electrified the rural Northwest, and has long served as a benchmark of reasonable electric rates. As a power source, the Columbia River system is hard to beat. It's bountiful. It does not pollute the air. It's a renewable resource. It keeps the lights on. And it's ours -- a public resource, operated for the widest public benefit.

In 1996, the four Northwest governors sponsored a review of the region's power system in light of industry deregulation. The Regional Review concluded that it is important to retain the benefits of the Columbia River system in the Pacific Northwest.

Right now, BPA's hydropower is competitive in price with power sold by other wholesale suppliers. The West Coast has a power surplus and ample supplies of cheap natural gas have reduced wholesale power prices.

BPA has cut costs and rates and reduced staff more than 20 percent to compete in the open market. New contracts with utilities and industries have stabilized its power sales and revenues through 2001.

The agency continues to cut costs and improve its operating efficiency. For the 14th year in a row, BPA has paid its bill to the U.S. Treasury in full and on time. Its largest bills are debt payments to the U.S> Treasury for the federal investment in the region's dams and power grid, and debt payment for three BPA backed Washington Public Power Supply System nuclear plants. The Supply System debt will be retired between 2011-2018.

Then, even with the lowest forecast of future gas prices, BPA hydropower at cost is expected to be well below the market price for electricity. The Federal Columbia River Power System is estimated to have a net present value between $3 billion to $25 billion for the Northwest, compared to other power sources.

The Regional Review recognized that, to retain those benefits in the region, the system must pay its own way. And it must continue to redress damage to fish and wildlife.

In 1998, BPA intends to offer Northwest utility customers subscriptions to BPA power at cost for up to 20 years, starting post 2001, with rates set through 2006. BPA is preparing attractive, competitive power products for its customers. Subscription to BPA power will assure that the system will pay its own way, and that the Columbia River's benefits will stay in the region, fulfilling the mandate of the Regional Review. It will give BPA and the region a stable source of funding for fish and wildlife efforts and other unique public benefits.

Retaining the Value of the River in the Region

The next few years will set the direction for future generations. If we retain the benefits of Columbia River in the Northwest as the utility industry is restructured, we should expect:

- Sustainable economic growth
- Cleaner skies
- Improved salmon runs
- Cheap, reliable electricity

The story of the river is the story of the quality of life in the Pacific Northwest. Not just for this generation, but for the future. We have enjoyed the benefits of the river for the last three generations. It is up to us to secure the benefits for generations to come.

If you'd like more information about the Bonneville Power Administration, visit our web site at *http://www.bpa.gov*, or call us in Portland, Ore., and (503) 230-7334, or outside the Portland area at (800) 622-4520.

This *keeping Current* was created by BPA Corporate Communications.
It was posted on the Internet by Katie Leonard, *keleonard@bpa.gov*.